

ABSTRACT

A multi-antenna, multi-pass IFSAR mode utilizing data driven alignment of multiple independent passes can combine the scaling accuracy of a two-antenna, one-pass IFSAR mode with the height-noise performance of a one-antenna, two-pass IFSAR mode. A two-
5 antenna, two-pass IFSAR mode can accurately estimate the larger antenna baseline from the data itself and reduce height-noise, allowing for more accurate information about target ground position locations and heights. The two-antenna, two-pass IFSAR mode can use coarser IFSAR data to estimate the larger antenna baseline. Multi-pass IFSAR can be extended to more than two (2) passes, thereby allowing true three-dimensional radar imaging
10 from stand-off aircraft and satellite platforms.